CLAIMS

1. A glucose uptake inhibitor in the small intestine comprising a compound or a salt thereof that inhibits the activity of a Na^+/glucose transporter (SGLT) homolog.

2. A glucose uptake inhibitor in the small intestine comprising a compound or a salt thereof that inhibits the expression of a gene for Na^+/glucose transporter (SGLT) homolog.

3. The inhibitor according to claim 1 or 2, which is a postprandial hyperglycemia-improving agent.

4. The inhibitor according to claim 1 through 3, which is an agent for the prevention/treatment of diabetes, obesity or hyperlipemia.

5. A glucose uptake promoter in the small intestine comprising a compound or a salt thereof that promotes the activity of a Na^+/glucose transporter (SGLT) homolog.

6. A glucose uptake promoter in the small intestine comprising a compound or a salt thereof that promotes the expression of a gene for Na^+/glucose transporter (SGLT) homolog.

7. The promoter according to claim 5 or 6, which is a glucose absorption promoter.

8. The agent according to claim 1 through 7, wherein the Na^+/glucose transporter (SGLT) homolog is a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof.

9. The agent according to claim 1 through 7, wherein the Na^+/glucose transporter (SGLT) homolog is a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 3, its partial peptide, or a salt thereof.

10. The agent according to claim 1 through 7, wherein the Na^+/glucose transporter (SGLT) homolog is a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, its partial peptide, or a salt thereof.

11. The agent according to claim 1 through 7, wherein the Na^+/glucose transporter (SGLT) homolog is a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO:

50, its partial peptide, or a salt thereof.

12. A glucose uptake inhibitor in the small intestine comprising an antisense polynucleotide comprising the entire or part of a base sequence complementary or substantially complementary to a base sequence of a polynucleotide encoding a Na^+/glucose transporter (SGLT) homolog.

13. The inhibitor according to claim 12, which is a postprandial hyperglycemia-improving agent.

14. The inhibitor according to claim 12 or 13, which is an agent for the prevention/treatment of diabetes, obesity or hyperlipemia.

15. The inhibitor according to claim 12 through 14, wherein the polynucleotide encoding the Na^+/glucose transporter (SGLT) homolog is a polynucleotide comprising the same or substantially the same base sequence as the base sequence represented by SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6 or SEQ ID NO: 51.

16. A glucose uptake inhibitor in the small intestine comprising an antibody to a Na^+/glucose transporter (SGLT) homolog.

17. The inhibitor according to claim 16, which is a postprandial hyperglycemia-improving agent.

18. The inhibitor according to claim 16 or 17, which is an agent for the prevention/treatment of diabetes, obesity or hyperlipemia.

19. The inhibitor according to claim 16 through 18, wherein the Na^+/glucose transporter (SGLT) homolog is a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5 or SEQ ID NO: 50, its partial peptide, or a salt thereof.

20. A diagnostic agent for postprandial hyperglycemia comprising an antibody to a Na^+/glucose transporter (SGLT) homolog.

21. A diagnostic agent for postprandial hyperglycemia comprising a polynucleotide encoding a Na^+/glucose transporter (SGLT) homolog.

22. A method of screening a compound or its salt that regulates the glucose uptake activity of a Na^+/glucose transporter (SGLT) homolog in the small intestine, which comprises using the homolog.

23. The screening method according to claim 22, wherein the Na^+/glucose transporter (SGLT) homolog is a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1,

SEQ ID NO: 3, SEQ ID NO: 5 or SEQ ID NO: 50, its partial peptide, or a salt thereof.

24. A kit for screening a compound or its salt that regulates the glucose uptake activity of a Na^+/glucose transporter (SGLT) homolog in the small intestine, comprising the homolog.

25. A method of screening a compound or its salt that regulates the glucose uptake activity of a Na^+/glucose transporter (SGLT) homolog in the small intestine, which comprises using a polynucleotide encoding the homolog.

26. The screening method according to claim 25, wherein the polynucleotide encoding the Na^+/glucose transporter (SGLT) homolog is a polynucleotide comprising the same or substantially the same base sequence as the base sequence represented by SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6 or SEQ ID NO: 51.

27. A kit for screening comprising a compound or its salt that regulates the glucose uptake activity of a Na^+/glucose transporter (SGLT) homolog in the small intestine, which comprises using a polynucleotide encoding the homolog.

28. A method of inhibiting glucose uptake in the small intestine, which comprises inhibiting the activity of a Na^+/glucose transporter (SGLT) homolog.

29. A method of inhibiting glucose uptake in the small intestine, which comprises inhibiting the expression of a gene for Na^+/glucose transporter (SGLT) homolog.

30. The method according to claim 28 or 29, which is a method of improving postprandial hyperglycemia.

31. The method according to claim 28 through 30, which is a method for the prevention/treatment of diabetes, obesity or hyperlipemia.

32. A method of promoting glucose uptake in the small intestine, which comprises promoting the activity of a Na^+/glucose transporter (SGLT) homolog.

33. A method of promoting glucose uptake in the small intestine, which comprises promoting the expression of a gene for Na^+/glucose transporter (SGLT) homolog.

34. The method according to claim 32 or 33, which is a method of promoting glucose absorption.

35. A method of inhibiting glucose uptake in the small intestine, which comprises administering to a mammal an effective dose of a compound or its salt that inhibits the activity of a Na^+/glucose transporter (SGLT) homolog.

36. A method of inhibiting glucose uptake in the small intestine, which

comprises administering to a mammal an effective dose of a compound or its salt that inhibits the expression of a gene for Na^+/glucose transporter (SGLT) homolog.

37. The method according to claim 35 or 36, which is a method of improving postprandial hyperglycemia.

38. The method according to claim 35 through 37, which is a method for the prevention/treatment of diabetes, obesity or hyperlipemia.

39. A method of promoting glucose uptake in the small intestine, which comprises administering to a mammal an effective dose of a compound or its salt that promotes the activity of a Na^+/glucose transporter (SGLT) homolog.

40. A method of promoting glucose uptake in the small intestine, which comprises administering to a mammal an effective dose of a compound or its salt that promotes the expression of a gene for Na^+/glucose transporter (SGLT) homolog.

41. The method according to claim 39 or 40, which is a method of promoting glucose absorption.

42. Use of a compound or its salt that inhibits the activity of a Na^+/glucose transporter (SGLT) homolog to manufacture a glucose uptake inhibitor in the small intestine.

43. Use of a compound or its salt that inhibits the activity of a Na^+/glucose transporter (SGLT) homolog to manufacture a glucose uptake inhibitor in the small intestine.

44. The use according to claim 42 or 43, wherein the glucose uptake inhibitor in the small intestine is a postprandial hyperglycemia-improving agent.

45. The use according to claim 42 through 44, wherein the glucose uptake inhibitor in the small intestine is an agent for the prevention/treatment of diabetes, obesity or hyperlipemia.

46. Use of a compound or its salt that promotes the activity of a Na^+/glucose transporter (SGLT) homolog to manufacture a glucose uptake promoter in the small intestine.

47. Use of a compound or its salt that promotes the activity of a Na^+/glucose transporter (SGLT) homolog to manufacture a glucose uptake promoter in the small intestine.

48. The use according to claim 46 or 47, wherein the glucose uptake promoter in the small intestine is a glucose absorption promoter.